

Remarks

Claims 34 - 51 are pending. Favorable reconsideration is respectfully submitted.

Claim 48 has been rejected under 35 U.S.C. § 112 ¶1. While Applicants' attorney does not completely understand the basis for this rejection (note paragraph 3 on page 6 of the prior response), he believes that it may be due to the use of the term "redispersible polymer powder" rather than "redispersible polymer composition," as recited in claim 49, from which claim 48 is dependent. The claim has been accordingly amended. The Examples show incorporation of the biocidal active into the redispersible polymer composition in Examples 1 and 2 (page 11), and spray drying to produce such compositions is described further on page 9, first paragraph. Withdrawal of the rejection of claim 48 under 35 U.S.C. § 112 ¶1 is thus respectfully solicited.

Claims 50 and 51 have been rejected under 35 U.S.C. §112 ¶2 for use of the phrase "the solid biocide." These claims have been amended to overcome this deficiency, for which Applicants' attorney apologizes.

Claims 49 and 34 - 42 have been rejected under 35 U.S.C. § 102(b) over Weitzel 2003/0018121 ("*Weitzel*"). This published application has issued as U.S. Patent No. 6,740,692. Applicants respectfully traverse this rejection. As the prosecution of this application has been extensive, Applicants will make their argumentation as brief as possible.

The present invention is directed to curable mineral construction products (*i.e.* cements, mortars, plasters, stuccos, etc.) to which a redispersible polymer composition is applied. This redispersible polymer composition is, as the name indicates, "redispersible" as that term is known to the art, as previously explained. The composition contains a polymer powder and a biocide selected from the group consisting of bactericide actives, fungicide actives, and algicide actives. The "consisting of" language of this Markush group limits the biocides to those enumerated, all of these being biocide "actives," *i.e.* the active ingredients *per se*. It has been

surprisingly found, as borne out by the Examples, that the use of the biocide actives prepared as a redispersible polymer composition, provides long lasting protection to the masonry product while requiring very significantly less biocide.

Weitzel discloses mineral construction products which include, separately, a redispersible polymer powder, and a complex of cyclodextrin containing a biocide active in the cyclodextrin host cavity. The claims do not allow the use of such complexes, because the closed language of the Markush group requires the biocides to be biocide actives, *i.e.* the biocide *per se*, not a complex or encapsulated version thereof. Please also note the comments presented below with regard to the §103(a) rejections over *Weitzel* and over *Weitzel* in view of *Botts*. Since *Weitzel* does not disclose any such composition, withdrawal of the rejection of the claims under 35 U.S.C. § 102(b) over *Weitzel* is respectfully solicited.

Claim 50 has been rejected over *Weitzel* under 35 U.S.C. § 103(a). Applicants respectfully traverse this rejection. Claim 50 also requires that the biocide be selected from the group consisting of biocide actives. *Weitzel* does not disclose any redispersible polymer composition containing only actives, as opposed to cyclodextrin inclusion complexes of actives.

As a matter of fact, *Weitzel* clearly teaches away from using the neat actives. *Weitzel* is directed to the use of cyclodextrin complexes of both photoinitiators and fungicides. In paragraphs [0044] - [0048], *Weitzel* discloses that the cyclodextrin complexes of photoinitiators should be used ([0045], [0048]) rather than the photoinitiator active itself ([0044], [0047]), and the same for fungicides. Compare [0050] and [0053] (cyclodextrin complexes) with [0051], [0052], [0054] (active only - no cyclodextrin complex). Note that in [0052] and [0054] the active was neat, *i.e.* in solid form, but supplied separately to the composition. Thus, *Weitzel* clearly teaches away from using neat biocidal actives, teaching instead to use cyclodextrin complexes of the additives. Teaching away is strong evidence of non-obviousness. *W.L. Gore v. Garlock*, 220 USPQ 303 (Fed. Cir. 1983). Since *Weitzel* does not teach or suggest the use of neat actives in any form, much less in the form of a redispersible polymer composition, claim 50 is clearly non-obvious over *Weitzel*.

Claims 34, 44, 47 - 48 and 51 have been rejected under 35 U.S.C. § 103(a) as unpatentable over *Weitzel* in view of *Botts* U.S. 7,070,795 ("*Botts*"). Applicants respectfully traverse this rejection.

First, *Weitzel* teaches use of cyclodextrin complexes, not actives encompassed within a polymer matrix. Thus it is difficult to reconcile *Botts*' teachings with *Weitzel*. In the sections of *Botts* cited by the Office, *Botts* teaches preparation of compositions which contain a biocide uniformly distributed within a polymer matrix. These are not CD complexes, nor are they in any way similar to Applicants' redispersible polymer compositions. Moreover, the spray drying technique of *Botts* and that of Applicants are very different. *Botts* teaches dissolving polymer and biocide in hydrophobic organic solvent, emulsifying the solution into droplets in an aqueous or hydrophilic phase, and then spray drying. As a result, polymer beads containing biocide uniformly dispersed therein are formed. This is not Applicants' process.

In Applicants' process, a dispersion of solid polymer particles and biocide are spray dried. See Examples 1 and 2. Because the polymer is in solid form already, the biocide cannot be uniformly dispersed within the particles. Moreover, the polymer particles of *Botts*, by definition, are not redispersible. To be a redispersible polymer powder, the polymer must exist in solid particulate form prior to spray drying, as is well known. In the *Botts* process, the polymer is not in solid form, but in dissolved form. Thus, no redispersible polymer composition can be produced. Note that *Botts* does not employ any protective colloid, necessary to form a redispersible polymer powder.

Even if *Botts* taught a redispersible polymer composition, which he does not, there would be no motivation to combine *Botts* with *Weitzel*, because *Weitzel* teaches cyclodextrin biocide complexes, not biocides uniformly dispersed in polymer beads. Withdrawal of the rejection of the claims over *Weitzel* in view of *Botts* is respectfully solicited.

Claims 49, 34 - 35, and 37 - 46 have been rejected for obviousness-type double patenting over *Weitzel* U.S. Patent U.S. 6,740,692. This is the same as *Weitzel* U.S. 2003/0018121 (see the cover sheet of the patent). Claims 33 - 35 and 37 - 46 have been rejected

as obvious under 35 U.S.C. § 103(a) over *Weitzel*. Applicants respectfully traverse both these rejections as *Weitzel* teaches away from what Applicants have done. *Weitzel* teaches the use of cyclodextrin complexes of biocide actives, whereas the claimed invention requires use of the actives themselves, no complexes, no encapsulants, no polymer matrix. Because *Weitzel* teaches away, the claims are clearly non-obvious over *Weitzel*.

Note in particular Example 6 and Comparative Example C8 of *Weitzel*, where the CD complexed n-octylisothiazolinone was more effective than the active alone, but not by a great deal. The complex had a soiling index of 86 whereas the neat active soiling index was 84. The improvement is about 2.4%. The same amount of biocide was used in each example (1000 ppm).

In Applicants' invention, 10.5 ppm of biocide in the form of the spray dried redispersible polymer powder composition was considerably more effective than 225 ppm of neat biocide added separately. Thus, despite using 20 times less biocide, Applicants' compositions were more growth resistant. These showings also illustrate the non-obviousness of the present invention.

Entry of this response is earnestly solicited as it is believed to overcome all the claim rejections, particularly those under 35 U.S.C. § 112, which were not formerly of record. Entry will at least reduce issues on appeal, should appeal be necessary.

Respectfully submitted,

HANS PETER WEITZEL et al.

By


William G. Conger

Reg. No. 31,209

Attorney/Agent for Applicant

Date: January 28, 2010

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351